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IG, J. G.		
CHINS, N. M.	X	
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DONALD, M. M		
ENNA, F. G.		
ITROSE, J. K.		
GAN, R. V.		
TER, G. L.		
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NG, T. L.		
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SER, S. G.	X	
LIVAN, M. T.		
ANSON, E. R.		
KINSON, R. B.	X	
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EG&G ROCKY FLATS

EG&G ROCKY FLATS, INC.
ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

June 2, 1994 94-RF-06208

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Jessie M. Roberson
Acting Assistant Manager
Environmental Restoration
DOE/RFFO

METHODOLOGY FOR INCORPORATION OF RISK EVALUATION IN THE CORRECTIVE MEASURE STUDY/FEASIBILITY STUDY (CMS/FS) PROCESS - SGS-351-94

Risk Assessment staff of EG&G Rocky Flats, Inc. met with Department of Energy Rocky Flats Field Office (DOE/RFFO) staff on May 31, 1994 to discuss potential methodologies for incorporation of an As Low as Reasonably Achievable (ALARA), Radiological Performance Assessment and the evaluation of short term risk to workers and the public into the CMS/FS process. A copy of the meeting notes is attached.

Based on discussions during the meeting, EG&G has prepared the attached outline for a guidance document for "Risk Evaluation of Remedial Alternatives for the Rocky Flats Plant" for your review. This guidance document would include specific methodologies to be used by subcontractors developing Operable Unit-specific CMS/FS reports. This guidance document is modeled after a similar document being prepared at the Hanford Site. EG&G will prepare the draft document for DOE/RFFO review by July 29, 1994.

Please direct any comments on the guidance document outline to John Hopkins of Environmental Engineering & Technology on extension 8636.

S. G. Stiger
Associate General Manager
Environmental Restoration Management

RSR:cet

Orig. and 1 cc - J. M. Roberson

Attachments:
As Stated (2)

cc:
M. H. McBride - DOE/RFFO
M. N. Silverman - DOE/RFFO
L. W. Smith - DOE/RFFO

ADMIN RECORD

SW-A-003614

1/4

MEETING MINUTES

TO: Carlos Leon - D&M
Joe Gordon - D&M
Steven Needler - EG&G
Peter Laurin - EG&G
John Hopkins - EG&G
Rick Roberts - EG&G
Norma Castaneda - DOE/RFO
Tim Reeves - DOE/RFO/Aguirre
Eric Dille - DOE/RFO/Aguirre
Michael Guillarme - DOE/RFO/Aguirre
Rick Stupka - DOE/RFO/SAIC
Tom Greengard - DOE/RFO/SAIC

FROM: John Hopkins

DATE: June 2, 1994

SUBJECT: Programmatic CERCLA Issues

On Tuesday, May 31, 1994, a meeting was held among EG&G, DOE, and support contractors to address EG&G's response to DOE's request that certain issues be addressed through the CERCLA process currently being implemented at the Rocky Flats Plant (RFP). Specifically, DOE requested that ALARA guidelines, performance assessment (PA) requirements, and RESRAD computer code modeling be addressed in each operable units' RI/FS reports. Other topics discussed in the meeting included default exposure factors, worker health and safety, and ecological risk evaluation. A summary of the issues discussed and the views presented by the participating groups is provided below.

- **Exposure Factors** - EG&G plans on submitting a draft report to DOE within the next week presenting site-specific exposure factors for use in the development of baseline risk assessments. Default parameters recognized by the EPA will be used wherever possible.

- **ALARA** - EG&G will reference ALARA requirements where appropriate in the upcoming feasibility studies to be performed for each operable unit. DOE Order 5400.5 will also be referenced where appropriate. DOE added that DOE Order 5480.10 also applies ALARA requirements to mixed wastes. EG&G plans on preparing a draft guidance on Risk Evaluation of Remedial Alternatives (RERA) similar to the document prepared for DOE's Hanford site to specify how ALARA will be considered in FS reports. The primary purpose of this document will be to outline how risk assessment will be used in the detailed analysis of alternatives to evaluate potential remedial action alternatives. However, the document will also discuss ALARA requirements, short-term risk, and other relevant topics that involve public or worker risk evaluation.

- **Performance Assessments** - EG&G is concerned that DOE's request that PA requirements be included in FS reports is not appropriate within the FS framework.

PAs are intended to document compliance with performance objectives set for low-level radioactive waste disposal facilities and are typically included in design phases. Since no such facilities currently exist at the RFP, and none are currently proposed, EG&G does not feel that this request is appropriate. EG&G also stated that residual risk assessments presented in the FSs will be functionally equivalent to PAs. It was decided that EG&G would present its approach on how PAs will be addressed through CERCLA in the proposed RERA document.

- **Evaluation of Worker Health and Safety (H&S)** - EG&G stated that worker H&S will be addressed in the detailed analysis of alternatives (DAA), and that the methodology proposed to examine risks to workers will be discussed as a graded approach in the draft RERA. DOE mentioned that this discussion should include reference to DOE Order 5480.11.

- **Ecological Risk Evaluation** - EG&G stated that ecological impacts will be addressed in the DAA as above. The methodology proposed for this evaluation will likewise be presented in the draft RERA.

- **RESRAD Computer Code** - In a prior memorandum DOE requested that the RESRAD code be used for modeling of all media at the RFP during implementation of the CERCLA process. EG&G stated that this code could not adequately model all of the media under consideration at the RFP and that currently the model is only applicable to radionuclide contamination. Several other models have been used to date and have been approved by the participating agencies (i.e., EPA and CDH). Implementation of RESRAD across all operable units would most likely duplicate existing efforts and require additional funds for work already completed using other codes. EG&G stated that models used to date are functionally equivalent to RESRAD. EG&G will submit another letter to DOE presenting its rationale for using other models, and identifying potential problems associated with implementation of the RESRAD code. EG&G's letter will include cost and schedule impacts as well as technical limitations.

PRELIMINARY OUTLINE FOR RISK EVALUATION OF REMEDIAL ALTERNATIVES

1.0 INTRODUCTION

- 1.1 Purpose
- 1.2 Scope
- 1.3 Risk Evaluation of Remedial Alternatives (RERA) Approval
- 1.4 Modeling Guidelines (including RESRAD)

2.0 RISK ASSESSMENT DURING THE INITIAL PHASES OF THE FS/CMS

- 2.1 Level of Risk Assessment Analysis in the Initial FS/CMS Phases
- 2.2 Development of Remedial Action Objectives
- 2.3 Preliminary Remediation Goals
- 2.4 Revised Remediation Goals
- 2.5 Alternative Concentration Limits

3.0 RISK ASSESSMENT FOR DETAILED ANALYSIS OF ALTERNATIVES

- 3.1 Level of Risk Assessment Analysis for the Detailed Analysis of Alternatives
- 3.2 Evaluation of Short-term Risks
- 3.3 Evaluation of Long-term Risks
- 3.4 Assessment of ALARA Requirements and DOE Order 5400.5
- 3.5 Incorporation of Performance Assessments with Residual Risk Evaluations

4.0 COORDINATING RISK ASSESSMENT WITH SELECTION OF REMEDIAL ALTERNATIVES

- 4.1 FS/CMS Team Approach
- 4.2 Selection and Screening of Technologies and Alternatives
- 4.3 Detailed Evaluation of Remedial Alternatives
- 4.4 Ranking of Remedial Alternatives

5.0 RISK EVALUATION AFTER THE FS/CMS

- 5.1 Risk Evaluation During Remedial Design
- 5.2 Risk Evaluation During Implementation of the Remedy
- 5.3 Risk Evaluation After Site Remediation

6.0 REFERENCES

4/4